C·R·E·S®

CENTER FOR REPRODUCTION OF ENDANGERED SPECIES

REPORT

SUMMER 1993

CRES® is operated by the Zoological Society of San Diego.

The Return of the Wild Horse

Where in the world can a large, social, and highly mobile mammal species be reintroduced back into its historical range? For Przewalski's horse—the world's only true wild horse—the Dzungarian Gobi of Mongolia offers the possibility for establishing such a reintroduction project. In June 1992, horses were transferred there from the large preserve at Askania Nova in the Ukraine. (There are also captive populations held in the Xinjiang Uygur Autonomous Region of China.) However, for a reintroduction to be successful, these pioneering efforts must be extended and enhanced.

Scientists must ask if the animal population will be self-sustaining in its wild environment, and if it can form an integral part of the ecosystem in which it lives. Will it require management from humans? A true reintroduction of a species needs to fulfill these basic requirements in order to be successful.

> **"... the Przewalski's horse project is a direct expression of human optimism and commitment to the environment.."**

But, if the historical habitat includes humans and their domestic animals, as is the case in Mongolia with its native people and their flocks and herds, steps must also be taken to ensure that the local human population benefits from the reintroduction. Here, the horses will be competing with domestic flocks for grazing land and water, which is significant in a semidesert environment.

Although the human population density is low, overgrazing by sheep, goats, and camels has affected the fragile and sensitive semidesert grassland habitat. Additionally, Mongolia is a developing country that has experienced severe economic hardships since declaring its autonomy

Giant Panda Studies Continue in China

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from Russia in 1991.

Recently, under the auspices of the United Nations Development Program, the World Bank Global Environmental Facility, and the German government's Society for Technical Cooperation (GTZ), funding has been approved to assist the Mongolian government to protect and conserve that country's unique biological diversity. Thus, the nations of the world will assist in the restoration of the Przewalski's horse to Mongolia as part of these projects.

This is a significant effort that serves as a dramatic example: through species reintroduction programs, captive breeding programs in zoos can be linked with the restoration of damaged ecosystems. This program, which will begin in 1993 and last for several years, serves as a culmination of more than eight decades of captive breeding of Przewalski's horses in zoological parks. Now believed extinct in the wild, there are only approximately 1,100 of these horses in captivity worldwide, including the herds at the San Diego Zoo and the Wild Animal Park. Several of these horses were sent to China in 1985 for this project.

Dr. Oliver Ryder, CRES geneticist, visited Mongolia in 1991. He will return there this summer to work with international experts, Mongolian government officials, and Mongolian scientists to establish and implement the reintroduction plan, the project monitoring activities, and associated research projects. As part of the overall project, scientists from the Mongolian Academy of Sciences will be working in CRES laboratories and participating in joint studies.

Photo by Philip Ensley, D.V.M.

Relatively few examples of large animal reintroductions exist, although reintroduction of species extinct in the wild may become an increasingly important part of efforts to preserve or restore habitats and ecosystems. Without the protection of native habitat, a reintroduction program is not possible. No species held in captivity for more than 80 years--or nearly 15 generations of breeding--has been the subject of reintroduction attempts. Nonetheless, the Przewalski's horse project is a direct expression of human optimism and commitment to the environment. The nations of the world will, together, now attempt to apply their combined knowledge in an effort to conserve the wildlife of the Gobi and restore it to its former, richer state.

ABOUT THE AUTHOR: OLIVER RYDER, Ph.D., KLEBERG CHAIR IN GENETICS

Photo by Philip Ensley, D.V.M.

Dr. Oliver Ryder manages a highly productive genetics laboratory at CRES, applying his background in molecular genetics to the emerging science of conservation biology. Since 1979, when he joined the CRES staff as a geneticist, he has participated in many international conservation-related projects. As a member of the Steering Committee of the Przewalski's Horse Global Management Plan Working Group, he is instrumental in planning the reintroduction of this species into its historic range and has made several trips to the Soviet Union and Mongolia to set up the project. Dr. Ryder is an Associate Editor of the Journal of Heredity, *has served on the editorial board of* Genetica, *and is a member of the Council of the American Genetics Association. His scientific consultations include* National Geographic, *the Kingdom of Saudi Arabia, and the Sultanate of Oman, as well as other international, federal, state, and local agencies. A Fellow of the San Diego Society of Natural History and a Scientific Fellow of The New York Zoological Society, Dr. Ryder has authored more than 125 scientific and popular articles and he frequently lectures to international audiences.*

INSIDE CRES

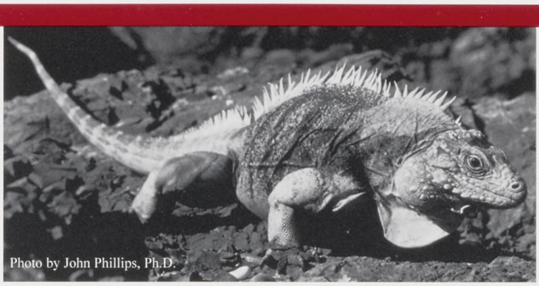


Photo by John Phillips, Ph.D.

Comparative Physiology

Conservation strategies for the rapid recovery of large lizard populations are the focus of a CRES project funded by the **National Science Foundation**. CRES researchers Drs. John Phillips and Allison Alberts, together with research technician Jeff Lemm, have recently embarked on a two-year study of Cuban ground iguanas at the Guantanamo Bay Naval Base, Cuba. They will obtain hormonal and behavioral data from wild populations, as well as monitor natural nest sites and investigate the temperature and moisture conditions needed for successful artificial egg incubation. An important goal of captive propagation programs for endangered species is to produce enough individuals for repopulation of native habitat where local extinction has occurred. One long-term field goal will determine the optimum age for release of captive-reared hatchlings that will maximize their survival in the wild, and another will examine how increasing the density of females relative to males may enhance local population growth. The seven species in the genus *Cyclura* are the most endangered of all the large iguanas, primarily because they inhabit fragile island ecosystems that are easily destroyed by habitat fragmentation. They are also vulnerable to the negative effects of introduced species--especially cats, dogs, mongooses, goats, and pigs--which prey upon the lizards and may compete with them for food. Several island populations of ground iguanas in the West Indies have recently become extinct, and others currently number less than 50 individuals. The CRES Cuban ground iguana project will provide critical information for the development of practical recovery programs that can be applied to this and other species in this rare and unique group of lizards.

Endocrinology

During the spring of 1992, Nancy Czekala-Gruber, CRES endocrinology specialist, traveled to two Giant Panda Breeding Centers within China to train scientists in a technique to monitor ovulation in the giant panda. This ability to assess ovulation is important because pandas ovulate only once each year, and, in captivity, their reproductive success in the past has been poor. This February, CRES staff returned to these breeding centers to evaluate the laboratory results from the 1992 panda breeding season and to deliver chemical reagents to the labs for the 1993 season. A great deal of information had been gathered during the 1992 season: all breeding-age females from the two facilities were evaluated. Now there is a basis for establishing hormonal parameters for this species. During the season, the breeding centers monitored conceptive cycles and pregnancies, false pregnancies, artificial insemination attempts, and the effects of anesthesia. In August 1993, the CRES team will continue training Chinese scientists at the Wolong Panda Breeding Center. When training is complete, a total of 60 percent of the captive breeding-age female pandas in China will be regularly monitored. In addition, this was an opportunity for the CRES team to look at the pair of pandas selected to come to the San Diego Zoo on breeding loan later this year. Both wild-caught pandas had originally been brought into captivity because of injuries that required veterinary attention.

Photo by Nancy Czekala-Gruber

SCULPTOR COLIN WEBSTER-WATSON

"Mountain of Dreams": Art for the Wild Animal Park

Friends of the San Diego Zoo and CRES gathered at the Teko Teko Art Gallery in Palm Desert on March 12 for the unveiling of "Mountain of Dreams," a bronze cheetah family sculpture by Colin Webster-Watson. A sculptor of international reputation, Webster-Watson's work embodies his love for animals and birds, the sea, and mythology. As a New Zealander, his childhood was influenced by the incredible masks, sculptures, and mythology of the Maori people, as well as by the sea and its creatures. When Colin studied art in Europe, he was overwhelmed by the quality of Rodin's sculptures, but he also wanted to create pieces with more movement. Such movement is evident in all of his sculptures of animals, whether of dolphins, whales, peacocks, sea lions, cheetahs, and the mythic Pegasus, or those half-human, half-animal creations of myth, centaurs and mermaids.

Drawing on his early experience as a dancer and with the theatre, Colin endows his extraordinary sculptures with both a muscular quality and a sense of flowing movement, conveying animal strength and elegance. "I have a special interest in movement, and my chief preoccupation is bringing it to sculpture in order to achieve line, mobility and a poetic sense. I work a great deal with animals--in action or in repose--because I am moved by a very deep feeling of respect for them."

Longtime Society supporters, George and Kathy Pardee, purchased the majestic sculpture and have donated it to the Wild Animal Park for permanent exhibit, while part of the proceeds of the sale will benefit CRES projects.

Photo by Millie Roche/Sand-To-Sea

Above (front row): Sculptor Colin Webster-Watson and Carol Baker kneel next to the cheetah sculpture at the Teko Teko Gallery in Palm Desert. Behind him are the Zoological Society's Development Director Charles Bieler and Associate Development Director for CRES Amy Parrott, along with Marion Shea, CRES Council member. Photo by Millie Roche/Sand-To-Sea.

CRES Grants

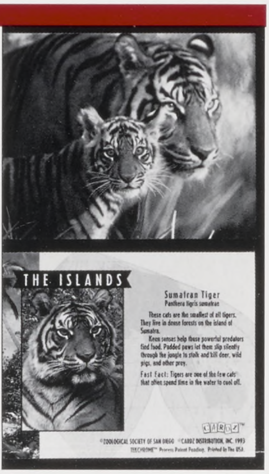
A recent grant from the ***Lee Romney Foundation*** *is helping to further endocrinologist Nancy Czekala-Gruber's research on gorilla fertility. Over the last 10 years, CRES has developed techniques to monitor ovarian function in gorillas through urinary hormone analysis. Using these noninvasive techniques, CRES researchers have determined abnormalities in the ovulatory process in infertile gorillas, which have been treated with some success. By understanding the causes of these abnormalities, steps can be taken to eliminate them from zoo populations.*

The John and Beverly Stauffer Foundation *continued its grant commitment toward Dr. Oliver Ryder's work on the Przewalski's horse conservation project. This program includes restoration of the animals' native habitat in a Mongolian preserve as well as reintroduction of the Przewalski's horse and other species native to that sanctuary. Dr. Ryder will visit Mongolia in 1993, and, in the autumn, a Mongolian scientist will join the genetics group at CRES (see feature story).*

Wild New Trading Cards from the San Diego Zoo and CARDZ!

Animal lovers and trading card collectors now have something in common: **The World-Famous San Diego Zoo Animals of the Wild** trading cards by CARDZ Distribution, Inc., which present little-known facts and fun trivia about the animals. For more than 75 years, the San Diego Zoo has earned a reputation as one of the world's best zoological gardens, known for its diversity of animals and carefully maintained habitats. The organization also commits its financial and human resources to endangered species and their preservation.

As this trading card series introduces young collectors to the fascinating animals found at the Zoo, it will also help with the preservation of species. A percentage of the sales of the 110-card series will go to the Zoological Society of San Diego's Center for Reproduction of Endangered Species (CRES). And, in line with a commitment to the preservation of the environment, these cards will be printed on recycled paper and packaged in recyclable materials. Look for the trading card series in gift shops at the San Diego Zoo and the San Diego Wild Animal Park after June 1.



THE ISLANDS

Sumatran Tiger
Panthera tigris sumatrae

These cats are the smallest of all tigers. They live in dense forests on the island of Sumatra.

Keen senses help these powerful predators find food. Padded paws let them slip silently through the jungle to stalk and kill deer, wild pigs, and other prey.

Fast Fact: Tigers are one of the few cats that often spend time in the water to cool off.

CARDZ™

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Adopt an Elephant!

Looking for a fun and unusual gift to tell Dad he's special on his big day?

Don't be caught with the rest of the herd. Instead of ties, cologne, or shirts, give him a gift that he'll be wild about. This Father's Day, we're offering you a special Adopt-An-Elephant package. For only $49* you can give him an attractive, personalized adoption certificate, a special card to announce your gift adoption, and a handsome elephant money clip to satisfy his need for a traditional gift.

And, there is the knowledge that your contribution will help us help these rare and precious animals.

It's easy and fun to adopt! Fill out the adoption form in this issue of *CRES Report* and mail it, along with your check, to the address provided. For more information, call the Zoo at (619) 557-3974, weekdays between 9 A.M. and 4 P.M.

*Special adoption price good until June 7, 1993, to ensure delivery by Father's Day. Delivery on adoptions received after this deadline cannot be guaranteed by Father's Day.

For the Dad You Love-- A Father's Day Gift He Will Always Remember

Special $49*

NOTE: Naturally, your adopted elephant will remain at the Zoo or the Wild Animal Park in the care of our professional staff. Please be aware that the lives of animals for adoption are subject to unavoidable changes. For that reason, adoptions are offered by species only, not by individual animal.

ANIMAL ADOPTION APPLICATION

☐ **YES**, I want to run with the herd by adopting an Elephant as a gift for:

Name(s) ______________________
(Dr./Mr./Mrs./Ms./Miss)
Address ______________________
City __________ State __________ Zip __________

Please sign the special card announcing my gift adoption as follows:

____

Your Name(s) ______________________
(Dr./Mr./Mrs./Ms./Miss)
Address ______________________
City __________ State __________ Zip __________
Phone(Day) __________ (Evening) __________
Member Number ______________________

☐ Also, please enter my own adoption of an Elephant at the special rate of $49 for one year.

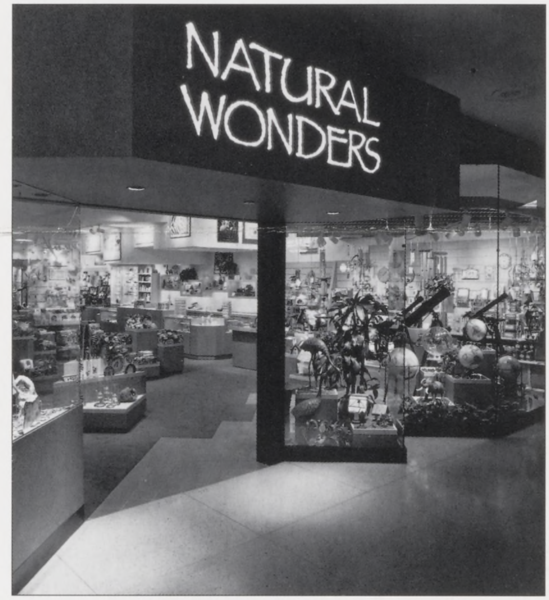
Please make checks payable to the Zoological Society of San Diego and mail to:

The Zoological Society of San Diego
Adopt-An-Animal Program
P.O. Box 271
San Diego, CA 92112

Or, to charge your adoption by telephone, call (619)557-3974, weekdays between 9 A.M. and 4 P.M. Orders must be received by June 7, 1993, to ensure delivery by Father's Day.

☐ Please check here if you'd like more information about our Adopt-An-Animal Program. (AVC3)

Partners for Nature: Natural Wonders Stores and CRES



Natural Wonders, the mall-based specialty retailer with products focused on the understanding and enjoyment of nature and science, will be promoting CRES this summer, beginning June 24. According to Rob Rubenstein, President and CEO of Natural Wonders, "Through this promotion, we hope to increase public awareness about CRES and the many projects that they are working on throughout the world." Window displays in more than 100 stores nationwide will feature CRES, while a portion of the proceeds from the sale of selected merchandise, including T-shirts, mugs, and calendars, will benefit the conservation and research work of CRES.

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SAN DIEGO ZOO
SAN DIEGO WILD ANIMAL PARK

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